Ready-to-use syringes: building a decision tool to help select drugs to develop in priority
T. Evard¹, C. Stucki¹², S. Martignoni², P. Bonnabry¹²
¹Pharmacy, Geneva University Hospitals (HUG)
²School of pharmaceutical sciences, University of Geneva, University of Lausanne, Switzerland

BACKGROUND AND OBJECTIVE
It is now well known that ready to use syringes (RTUS), produced at the pharmacy under GMP conditions, can markedly improve the safety of use of powerful intravenous drugs. However, their development is costly and time consuming and it is therefore essential to set priorities by targeting the best candidates.

METHODS
In order to gather the various important criteria, an observational study of RTUS use in an intensive care unit and an emergency room was carried out. Interviews among the nurse staff were made. Based on the collected information and the literature, a list of criteria was elaborated. Three experienced hospital pharmacists attributed scores to each item of this list to gauge the importance of the respective criteria.

RESULTS
The list included 16 criteria in four fields: safety (n=6), asepsis (6), economics (2), and ergonomics (2). A score ranging from 0 to 3 points was attributed to each criteria. Items “intrathecal drugs” and “drugs needed in an emergency” had the higher score (3). They were followed by “drugs with particular consumption (either very frequent of very seldom)”, “drugs with low therapeutic index”, “drugs prepared in advance”, and “drugs enhancing microbial growth” with a score of 2. A cumulative score of 10 points was decided as a cut-off to be considered as valuable candidate. The final selection is thereafter based on an algorithm including the score, resources availability, costs, and stability data.

CONCLUSIONS
The development of a decision tool, considering the various key elements implied in RTUS development will be helpful to select the most suitable drugs to be produced in priority, in a context of limited resources.